Lab Assignment
& Solution

Cybersecurity Professional Program

Introduction to Python
for Security

Data Types
& Conditions

PY-02-LS1
Working with User Input

Note: Solutions for the instructor are shown inside the green box.

Lab Objective

Become familiar with different data types and learn how to convert one type to another.

Lab Mission

Practice working with variables using different mathematical operations.

Lab Duration

10–20 minutes.

Requirements

- Knowledge of how to handle input from the user.
- Working knowledge of variables.

Resources

- Environment & Tools
    - Windows, macOS
        - Python 3
        - PyCharm

Textbook References

- Chapter 2: Data Types & Conditions
    - Section 1: Variables and User Output
    - Section 2: Operators and Casting

Lab Task

Create a script that collects user input for two variables. Then perform the following operations on the variables: addition, subtraction, multiplication, and modulo. Print the output of each calculation to the console.

Note: Refer to lab PY-01-L2 if you don't recall how to create a new Python file in PyCharm.

1. Create two variables that accept input from the user.

```
x_string = input("Enter 1st number:")
y_string = input("Enter 2nd number:")
```

2. Add the two variables, and print the results.

   Why does the console print a combined result of the inputs instead of the mathematical operation?

```
print("Sum: ", x_string + y_string)
```

It prints a combined result instead of the mathematical operation because the inputs were not cast to an integer.

3. Use the ***int()*** function to cast your variables from the **String** data type to the **Integer** data type.

```
x = int(x_string)
y = int(y_string)
```

4. Add the two variables (x and y) and print the results to the console.
   (Note that the two variables are integers and are mathematically added.)

```
print("Sum: ", x+y)
```

5. Subtract the two variables and print the results to the console.

```
print("Difference: ", x-y)
```

6. Multiply the two variables and print the results to the console.

```
print("Multiplication: ", x*y)
```

7. Divide the two variables and print the results to the console.

```
print("Division: ", x/y)
```

8. Perform a modulo operation on the variables and print the results to the console.

```
print("Remainder: ", x%y)
```